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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/837,325	04/18/2001	Barclay J. Tullis	2001004	8577

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EXAMINER

PATEL, TULSIDAS C

ART UNIT PAPER NUMBER

2839

DATE MAILED: 01/06/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

# Office Action Summary

Application No.

09/837,325

Applicant(s)

TULLIS ET AL.

Examiner

T. C. Patel

Art Unit

2839

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

## Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

- 1) ☐ Responsive to communication(s) filed on \_\_\_\_.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

## Disposition of Claims

- 4) ☒ Claim(s) 57-87 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 57-87 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_ are subject to restriction and/or election requirement.

## Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

## Priority under 35 U.S.C. §§ 119 and 120

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
a) ☐ All b) ☐ Some \* c) ☐ None of:  
1. ☐ Certified copies of the priority documents have been received.  
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_.  
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).  
\* See the attached detailed Office action for a list of the certified copies not received.
- 13) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application) since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.  
a) ☐ The translation of the foreign language provisional application has been received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121 since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.

## Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892) 4) ☐ Interview Summary (PTO-413) Paper No(s). \_\_\_\_
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948) 5) ☐ Notice of Informal Patent Application (PTO-152)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 12. 6) ☐ Other:

Art Unit: 2839

## DETAILED ACTION

### *General Status*

1. This is a Non-Final Action on the Merits for RCE. Claims 57-87 are pending in the case.

### *Drawings*

2. The drawings are objected to under 37 CFR 1.83(a). The drawings must show every feature of the invention specified in the claims. Therefore, the "a second similar apparatus resulting in a three dimensional array", as recited in claim 69, must be shown or the feature(s) canceled from the claim(s). No new matter should be entered.

A proposed drawing correction or corrected drawings are required in reply to the Office action to avoid abandonment of the application. The objection to the drawings will not be held in abeyance.

### *Claim Rejections - 35 USC § 112*

3. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

4. Claim 69 is rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the enablement requirement. The claim(s) contains subject matter, which was not described in the specification in such a way as to enable one skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention. It is not clear where support for three-dimensional array, recited in claim 69 is found in the specification.

Art Unit: 2839

*Claim Rejections - 35 USC § 103*

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. Claims 57-68 and 70-87 are rejected under 35 U.S.C. 103(a) as being unpatentable over Mangel et al. (US 5,701,372) in view of Tseng et al. (US 5,809,188).

Mangel et al. in figure 2, discloses a multiple fiber optic apparatus, comprising strip 34 constituting a number of couplers or switches. One of the optical fiber or waveguide is coupled to number of switches and has a plurality of ports. Mangel et al. also in column 1, lines 44-45, discloses that the construction could use optical waveguide or optical fiber. However, Mangel et al. does not disclose the side-polished strips. Tseng et al. discloses two strips of side polished half couplers and use of optical fibers for making a coupler. Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to use optical fibers using side polished strips in the device of Mangel et al. so as to make a plurality of switches/couplers. For claim 62, Mangel et al. discloses one of the waveguide/optical fibers in a form of a loop. For claim 64, the device can be combiner or splitters. For claim 66, the apparatus is compact and is stackable. For claims 67 and 68, use of UV curable adhesive is well known in the art. For claims 70, 71, use of a particular fiber and specific dimension is a matter of design choice so as to achieve desired result.

Art Unit: 2839

For claims 72-74, modified device of Mangel et al. has multiple ports and connects a single optical fiber to form a plurality of switches and the single fiber has multiple coupling regions, which lie parallel to each other as seen in figure 2. Use of optical fiber is the grooves, is taught by Tseng et al. For claims 74 and 75, the coupling fiber runs in opposite directions for two separate switch regions, such as SW1 and SW2, whereas the coupling fiber runs in the same directions for switches SW1, SW3. For claim 76, the relationship between the dimension of the coupling region and the spacing between the grooves is a matter of design choice.

For claim 77, Tseng et al. provides the teaching of elliptical contact area between the side-polished optical fibers is therefore, the modified device of Mangel et al. would have this feature. The dimensions recited in claims 79, 80 and 81 is a matter of design choice.

7. Claim 69 is rejected under 35 U.S.C. 103(a) as being unpatentable over Mangel et al. in view of Tseng et al. as applied to claims 57-68, 70-87 above, and further in view of Little (US 4,475,790).

Mangel et al. in view of Tseng et al. satisfies all the limitations of claim 69, except for two similar units stacked on each other. Little, in figure 2, discloses a set of units stacked on each other. Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the device of Mangel et al. as modified by Tseng et al. and stack as taught by Little, so as to obtain more optical switches in smaller space.

#### ***Response to Arguments***

8. Applicant's arguments with respect to claims have been considered but are moot in view of the new ground(s) of rejection.

Art Unit: 2839

Applicant cancelled all the previous claims and presented new claims. The new claims are rejected based on new art.

As to comment about non-approved drawings, the applicant could file a Continuation-in- Part application. In that case, the Applicant will be allowed to add new matter and also claim new matter presented in the non-approved figures.

*Change of Address*

9. Effective May 1, 2003, the United States Patent and Trademark Office has a new Commissioner for Patents address. Correspondence in patent-related matters to organizations reporting to the Commissioner for Patents must now be addressed to:

Commissioner for Patents  
P.O. Box 1450  
Alexandria, VA 22313-1450

Hand-delivered of responses should be brought to:

Crystal Plaza-4, Fourth floor (receptionist)  
2201 South Clark Place, Arlington, Virginia

10. Any inquiry concerning this communication or earlier communications from the examiner should be directed to T. C. Patel whose telephone number is (703) 308-1736 OR (703) 272-2098 (after January 30, 2004). The examiner can normally be reached on 6:30-4:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Lynn Feild can be reached on (703) 308-2710 OR (703) 272-2092 (after January

Application/Control Number: 09/837,325

Page 6

Art Unit: 2839

30, 2004). The fax phone numbers for the organization where this application or proceeding is assigned are (703) 872-9306.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-1782.



T. C. Patel  
Primary Examiner  
Art Unit 2839

Tcp  
January 3, 2004